

PATENT

Appl. No. 09/992,064
Amdt. dated December 21, 2004
Reply to Office Action of September 22, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for averaging two pixel values, comprising:
decoding an instruction comprising a rounding factor;
loading a plurality of first operands from a first input register;
loading a plurality of second operands from a second input register;
producing an average of one of the plurality of first operands and one of the plurality of second operands, wherein the rounding factor indicates which of a plurality of rounding algorithms should be used in producing the average; and
storing the average in an output register.
2. (Original) The method of claim 1, determining how many fields are in each of the first and second input registers.
3. (Original) The method of claim 1, wherein the producing the average comprises:
producing a first intermediate result by adding one of the plurality of first operands to one of the plurality of second operands; and
producing the average by shifting the first intermediate result to the right by one binary digit.
4. (Currently Amended) The method of claim 1, wherein the producing the average comprises:

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producing a first intermediate result by adding one of the plurality of first operands, one of the plurality of second operands and ~~a~~ the rounding factor; and
producing the average by shifting the first intermediate result to the right by one binary digit.

5. (Original) The method of claim 1, further comprising rounding the average before storing the average.

6. (Currently Amended) The method of claim 1, further comprising:
evaluating ~~a~~ the rounding factor; and
adding a value to the average.

7. (Currently Amended) The method of claim 7 6, wherein the value is one of zero and one.

8. (Currently Amended) A method for averaging two pixel values, comprising:
decoding an instruction, wherein the instruction indicates a rounding factor;
loading a first operand from an A1 field of a first input register;
loading a second operand from a B1 field of a second input register;
producing an average of the first operand and the second operand, wherein the rounding factor indicates which of a plurality of rounding algorithms should be used in producing the average; and
storing the average in a C1 field of an output register.

9. (Original) The method of claim 8, wherein the instruction is one of a plurality of instructions in a long instruction word.

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10. (Original) The method of claim 8, determining how many fields are in each of the first and second input registers.

11. (Original) The method of claim 8, wherein the producing an average comprises:

producing a first intermediate result by adding one of the plurality of first operands to one of the plurality of second operands; and

producing the average by shifting the first intermediate result to the right by one binary digit.

12. (Currently Amended) The method of claim 8, wherein the producing an average comprises:

producing a first intermediate result by adding one of the plurality of first operands, one of the plurality of second operands and ~~a~~ the rounding factor; and

producing the average by shifting the first intermediate result to the right by one binary digit.

13. (Currently Amended) The method of claim 8, further comprising:

evaluating ~~a~~ the rounding factor; and

adding a value to the average.

14. (Original) The method of claim 13, wherein the value is one of zero and one.

15. (Original) The method of claim 8, wherein the first input register comprises a plurality of fields.

16. (Original) The method of claim 8, further comprising rounding the average before storing the average.

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17. (Original) The method of claim 8, further comprising:
loading a third operand from an A2 field of the first input register;
loading a fourth operand from a B2 field of the second input register;
producing a second average of the third operand and the fourth operand; and
storing the second average in a C2 field of the output register.

18. (Currently Amended) A pixel averaging apparatus, comprising
a first input register comprising a plurality of first fields;
a second input register comprising a plurality of second fields;
a rounding factor indicated by an instruction;
a plurality of average modules respectively coupled to the first and second fields;

and

an output register comprising a plurality of third fields, wherein:

the third fields are respectively coupled to the plurality of average

modules, and

the rounding factor affects how the plurality of average
modules round results.

19. (Original) The pixel averaging apparatus of claim 18, wherein the
average module comprises:

a plurality of adders respectively coupled to the first and second fields; and

a plurality of shifters respectively coupled to the plurality of adders.

20. (Currently Amended) The pixel averaging apparatus of claim 18, wherein
~~further comprising a~~ the rounding factor that causes at least one of rounding-up or and
rounding-down by the plurality of average modules.

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21. (Currently Amended) The pixel averaging apparatus of claim 18, wherein
• the rounding factor is added to the first and second fields in the average module.